UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,542	07/19/2001	Sheng Li	3442P015	1961

8791	7590	11/13/2006	EXAMINER

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ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2006*.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1.   Claims 1-21 rejected under 35 U.S.C. 103(a) as being unpatentable over

by Varsa (US 2003/0140347), hereinafter referred to as Varsa.

Regarding claim 1, Varsa discloses the limitations: distributing data

frames among data packets **(abstract)** comprising assigning a plurality of

consecutive data frames to different data packets **(page 4 paragraph 0043 and**

figure 2a; a frame, i.e. T0-T3, has 9 consecutive slices, where each slice is

interleaved into 1 of 4 different packets), each data packet including data

frames that are sufficiently far apart such that loss of any particular data packet

distributes impact that the loss has on quality of recovered data **(page 2**

paragraph 0020; constructing a packet from video units in such a way that

the loss of a packet doesn't cause loss of too large of a continuous area of

video frame/sequence for efficient concealment), said assigning preventing

each data packet from including consecutive data frames **(page 4 paragraph**

0043 and figure 2a; every 4th slice in the frame is interleaved into the same

packet, thus each packet has no consecutive slices), and wherein a data

packet includes a packet header and each of the data frames included in the

data packet is associated with the packet header **(figure 3; once the packet is completely formed using the slices, a header is attached)**; and individually sending each data packet with assigned frames **(figure 5 and page 5 paragraph 0051; once each packet is completely formed, it is channel coded and transmitted)**.

Regarding claim 2, Varsa discloses the limitations: packing said each data packet with assigned frames **(page 5 paragraph 0050; a packetization algorithm is used to interleave the slices of the frame into packets)**.

Regarding claim 3, Varsa discloses the limitations: wherein said each data packet includes data frames that are at least two frames apart **(page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet)**.

Regarding claim 4, Varsa discloses the limitations: wherein said data frames are audio frames **(page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, and data information)**.

Regarding claim 5, Varsa discloses the limitations: wherein said assigning distributes data frames into different packets at a uniform interval **(page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet)**.

Regarding claim 6, Varsa discloses the limitations of the base claim.

Varsa fails to explicitly teach wherein the uniform interval is 5. However Varsa does suggest a packetization algorithm is used to interleave the slices of the frame into packets **(page 5 paragraph 0050)**.

It would have been obvious to one having skill in the art at the time the invention was made to increase Varsa's every 4th interval to 5. The motivation being to amplify the gap between frames in a packet to decrease the impact that a lost packet would have on the quality of recovered data.

Regarding claim 8, Varsa discloses the limitations: wherein said assigning plurality of consecutive data frames includes assigning a current data frame of said plurality of consecutive data frames to a packet that is at least two packets away from a packet that contains a previous data frame **(page 4 paragraph 0043 and figure 2a; since every 4th slice in the frame is interleaved into the same packet, each packet has no consecutive slices)**.

Regarding claim 9, Varsa discloses the limitations: distributing data frames of a multimedia entity **(abstract)** comprising distributing the data frames among a plurality of data packets, each data packet including the data frames from different parts of the multimedia entity **(page 4 paragraph 0043 and figure 2a; a frame, i.e. T0-T3, has 9 consecutive slices, where each slice is interleaved into 1 of 4 different packets)**, where said data frames from different said plurality of data packets parts are sufficiently spread out among to reduce the impact of a packet consecutive data frames into loss on quality of recovered data compared to packing sequential data packets **(page 2 paragraph 0020; constructing a packet from video units in such a way that the loss of a packet doesn't cause loss of too large of a continuous area of video frame/sequence for efficient concealment)**, said distributing preventing each data packet from including consecutive data frames **(page 4 paragraph 0043**

and figure 2a; every 4th slice in the frame is interleaved into the same

packet, each packet has no consecutive slices); and individually sending

each data packet over a network to a destination node **(figure 5 and page 5**

paragraph 0051; once each packet is completely formed, it is channel

coded and transmitted).

<u>Regarding claim 10</u>, Varsa discloses the limitations: wherein said

multimedia entity includes a video frame **(page 1 paragraph 0003; multimedia**

applications are used for transmitting audio, video image, or data

information).

<u>Regarding claim 11</u>, Varsa discloses the limitations: wherein said

multimedia entity includes a graphical image **(page 1 paragraph 0003;**

multimedia applications are used for transmitting audio, video image, and

data information).

<u>Regarding claim 12</u>, Varsa discloses the limitations: wherein said

sufficiently spreading out includes packing a data packet with data frames that

are at least two frames apart **(page 4 paragraph 0043 and figure 2a; every 4th**

slice in the frame is interleaved into the same packet).

<u>Regarding clam 13</u>, Varsa discloses the limitations of the base claim.

Varsa fails to explicitly teach wherein said plurality of data packets

includes at least five packets.   However Varsa does suggest a packetization

algorithm is used to interleave the slices of the frame into packets **(page 5**

paragraph 0050).

It would have been obvious to one having skill in the art at the time the invention was made to increase Varsa's every 4th interval to 5. The motivation being to amplify the gap between frames in a packet to decrease the impact that a lost packet would have on the quality of recovered data.

Regarding claim 14, Varsa discloses the limitations: a frame distribution component **(abstract)** comprising: a processor configured to assign a plurality of consecutive data frames to different data packets **(page 4 paragraph 0043 and figure 2a; a frame, i.e. T0-T3, has 9 consecutive slices, where each slice is interleaved into 1 of 4 different packet)**, preventing each data packet from including consecutive data frames **(page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet, each packet has no consecutive slices)**, wherein each data packet is to include data frames that are sufficiently far apart such that loss of any particular data packet distribute impact that the loss has on quality of recovered data **(page 2 paragraph 0020; constructing a packet from video units in such a way that the loss of a packet doesn't cause loss of too large of a continuous area of video frame/sequence for efficient concealment)**; and a packetizer to pack a current frame into a data packet assigned by said processor **(page 5 paragraph 0050; a packetization algorithm is used to interleave the slices of the frame into packets)**; and a packet-switched network over which each data packet is individually sent to a destination node **(figure 5 and page 5 paragraph 0051; once each packet is completely formed, it is channel coded and transmitted)**.

Regarding claim 15, Varsa discloses the limitations: wherein said data frames are audio frames **(page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, or data information)**.

Regarding claim 16, Varsa discloses the limitations: wherein said data packet includes data frames that are at least two frames apart **(page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet)**.

Regarding claim 17, Varsa discloses the limitations: a data packetizer component **(figure 5 unit 4)** comprising: a frame receiving element arranged to receive a sequence of data frames including consecutive parts of a segmented data entity **(abstract)**; and a frame assigning element arranged to assign a current data frame in said sequence of data frames to one of a plurality of data packet, preventing each data packet from including consecutive data frames **(page 4 paragraph 0043 and figure 2a; a frame, i.e. T0-T3, has 9 consecutive slices, where each slice is interleaved into 1 of 4 different packet)**, wherein said frame assigning element assigns frame to the data packet different from a data packet containing a previous data frame **(page 4 paragraph 0043 and figure 2a; every 4th slice in the frame is interleaved into the same packet, each packet has no consecutive slices)**; and a packet switched network over which each data packet is individually sent to a destination node **(figure 5 and page 5 paragraph 0051; once each packet is completely formed, it is channel coded and transmitted)**.

Regarding claim 18, Varsa discloses the limitations:　wherein said segmented data entity is a video frame **(page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, or data information)**.

Regarding claim 19, Varsa discloses the limitations:　wherein said segmented data is an audio sequence **(page 1 paragraph 0003; multimedia applications are used for transmitting audio, video image, or data information)**.

Regarding claim 20, Varsa discloses the limitations:　a frame packing element to pack data frames into assigned data packets **(page 5 paragraph 0050; a packetization algorithm is used to interleave slices of the frame into packets)**.

Regarding claim 21, Varsa discloses the limitations of the base claim.

Varsa fails to explicitly teach wherein said assigning distributes data frames into different packets in a Gaussian distribution.　Varsa does suggest a fixed or random pattern of interleaving slices of a frame into packets **(page 6 paragraph 0065)**.

It would have been obvious to one having skill in the art at the time the invention was made that Varsa's fixed or random pattern could have been a Gaussian distribution.　The motivation being Gaussian distribution deals with probability and probability deals with certain (fixed) or uncertain (random) patterns, which Varsa fairly suggests.
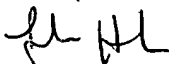
Conclusion

2.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

    a)   Belding et al. (US 20060067328), Method and Apparatus for Offset Interleaving of Vocoder Frames

3.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/01/2006

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER